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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,679	04/13/2006	Efraim Garti	27354U	4615
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EXAMINER				
MARC, MC'DEUNEL				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/575,679

Applicant(s)

GARTI, EFRAIM

Examiner

MCDIEUNEL MARC

Art Unit

3664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/18/2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 68-93 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 68-93 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/5508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The application filed on 04/13/2006 has been examined. Claims 68-93 are pending.
2. The rejection to c Claims 68-92 under 35 U.S.C. 102(b) as being anticipated by Porat et al. (US 6842931) is withdrawn.
3. The rejection to claim 71 under 35 U.S.C. 103(a) as being unpatentable over Porat et al. in view of Thrum et al. is withdrawn.
4. The rejection to claim 93 under 35 U.S.C. 103(a) as being unpatentable over Porat et al. in view of Young et al. (US 7144057) is withdrawn.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 68-93 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrases “adapted to” “or the like” are distinct, therefore the claims are indefinite.

All claims depending from a rejected base claim are also rejected as containing the same deficiencies.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 68-70, 72-81 and 92 are rejected under 35 U.S.C. 102(e) as being anticipated by Porat (US 7,089,876).

As per claims 68, 92, Porat 876' teaches *a cleaning robot adapted to move in a swimming pool or the like in accordance with commands from a main controller therein* (see col. line 33), *the robot when in use being free of any cables connected to an external power supply* (see fig. 1), *and having:*

(a) a body unit (see fig. 1, element 100) *with a battery power pack* (see fig. 1, element 102), *adapted to* *move along the floor and/or walls of the pool* (see fig. 1, element 2);

(b) a tail unit (see fig. 1, element 10) *comprising a head portion adapted to float on the surface of the pool* (see fig. 1, element 10) *while the body unit* (see fig. 1, element 100) *is on the floor of the pool* (see fig. 1), *the head portion comprising a connector* (see fig. 1) *designed for facilitating charging batteries or battery in the battery power pack* (see fig. 1, element 102) *by an external charger* (see fig. 1); *and*

(c) a tethering cable attached at least in use (see fig. 1), to the body unit (see fig. 1), said the tethering cable being of sufficient length to allow the float of the head portion to float on the surface of the pool while the body unit is on the floor of the pool (see fig. 1, element 3); a means for detecting its orientation in relation to a fixed direction (see col. 4, lines 30-34).

As per claim 69, Porat 876' teaches a cleaning robot wherein the head portion is adapted to submerge below the water surface upon encountering an obstacle (inherently the wall has been considered as obstacles).

As per claim 70, Porat 876' teaches a cleaning robot wherein the head portion is of a geometry which minimizes the likelihood of entanglement thereof with obstacles (see Fig. 1).

With respect to claim 72, Porat 876' teaches a cleaning robot wherein the head portion comprises a float user interface, and is designed such that the float user interface is disposed at or near the surface of the pool (see fig. 1, element 10), when the tail unit is in its working position (see fig. 1, element 10).

As per claim 73, Porat 876' teaches a cleaning robot wherein said tail unit further comprises a tail unit controller (see fig. 1, element 3) in communication with the main controller (see col. 4, line 64 – to – col. 5, line -7).

As per claim 74, Porat 876' teaches a cleaning robot wherein the float user interface is adapted to receive user input (see col. 7, lines 20-22).

As per claim 75, Porat 876' teaches teaches a cleaning robot wherein said tail unit (see fig. 1, element 10) further comprises at least one data presentation device (see fig. 4, element 34).

As per claim 76, Porat 876' teaches a cleaning robot that further comprising an external battery charger, which is connectable to the tail unit (see fig. 1, element 10) for charging at least one battery in said battery power pack in the body unit of the robot (see fig. 1, elements 102 and 100).

As per claim 77, Porat 876' teaches a cleaning robot wherein the charger is adapted to communicate with the tail unit via a cable (see fig. 1, element 90), and wherein another cable is used for connecting the tail unit (see fig. 1, element 94) with said battery power pack (see fig. 1, element 10).

As per claim 78, Porat 876' teaches a cleaning robot wherein the charger comprises at least one charger-side data presentation units (see fig. 4, particularly element 34).

As per claims 79-80, Porat 876' teaches a cleaning robot having a memory adapted to store a certain orientation of the robot (see fig. 4, element 34, wherein the display has been considered has having memory for storing the robot's motion being considered known, therefore it has not patentable weight), said controller being adapted to provide the robot with a command to align its orientation in accordance with the stored orientation and said orientation is defined by the robot's initial orientation (see col. 4, lines 1-19).

As per claim 81, Porat 876' teaches a cleaning robot that further comprising a detector for detecting a wall when impacted by the robot, wherein the alignment of the robot's orientation

is performed after at least one wall detection (see fig. 1, wherein the pool contains multiple walls).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 88-91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Porat in view of Abramson et al. (US 20080281481 A1).

As per claim 88, Porat 876⁷ teaches *a cleaning robot cleaning robot adapted to move in a swimming pool or the like, adapted to move in the pool along*. Porat does not specifically teach

two scanning directions obtained by adjusting the orientation of the robot in a predetermined way relative to a reference orientation thereof, said scanning directions having a predetermined angle therebetween, independently of the swimming pool's shape.

Abramson et al. teach a robotic vacuum cleaner having (see abs. and section [0003]) *two scanning directions obtained by adjusting the orientation of the robot in a predetermined way relative to a reference orientation thereof* (see sections [0053, 0140 and 0142]), *said scanning directions having a predetermined angle therebetween* (see section [0119]), *independently of the swimming pool's shape* (see section [0099]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the robot type of Porat, with the robot type of Abramson et al., because this modification would have introduced scanning direction into Porat's teaching, thereby improving the efficiency and the reliability of the cordless pool cleaning robot.

As per claim 89, Abramson et al. teaches in combination with Porat 876' *a cleaning robot having a memory adapted to store the orientation of the robot, and a controller being adapted to provide the robot with a command to align its orientation in accordance with the stored orientation* (see fig. 1 and section [0140]).

As per claim 90, Abramson et al. teaches in combination with Porat 876' *a cleaning robot wherein said orientation is defined by the robot's initial orientation* (see section 0099).

As per claim 91, Abramson et al. teaches in combination with Porat 876' *a cleaning robot wherein said predetermined angle is 90 degrees* (see section [0117]).

12. Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over Porat 7,089,876 in view of Thrum et al..

As per claim 71, Porat 7089876 teach essential feature substantially as claimed, but they fail to teach a robot being adapted to stop at a predetermined location when a predetermined number of wall encounters occur after the battery voltage drops below a predetermined amount.

Thrum et al. teaches a robot being adapted to stop at a predetermined location when a predetermined number of wall encounters occur after the battery voltage drops below a predetermined amount (see page 20, section 5.3 paragraph 2).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the robot type of Porat 7089876, with the robot type of Thrum et al., because this modification would have introduced battery monitoring system into Porat's 7089876, so that the robot can return to the charger, thereby improving the efficiency and the reliability of the cordless pool cleaning robot.

13. Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over Porat 7,089,876 in view of Young et al. (US 7,144,057).

As per claim 93, Porat 7089876 teach essential features of the invention substantially as claimed, but they fail to teach *a cleaning robot wherein the means is a digital compass integrated onto the controller.*

Young et al. 7144057 B1 teaches substantially *a cleaning robot wherein the means is a digital compass integrated onto the controller* (see col. 3, 3-4).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the cleaning robot type of Porat 7089876, with the digital compass type of Young et al., because this modification would have introduced the digital compass Porat's 7089876, so that the GPS sensor can communicate with the digital compass, thereby improving the efficiency and the reliability of the cordless pool cleaning robot.

Allowable Subject Matter

14. Claims 82-87 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fail to teach of fairly suggest with respect to claim 82, *a cleaning robot that further comprising an electro-mechanical drive means; said first controller being adapted to detect the current through the drive means, whereby when the current exceeds a threshold, the controller assumes a wall impact to have occurred; with respect to claim 84, a cleaning robot wherein the controller is adapted to allow the robot to perform a straight lap and a subsequent stepped lap, each between two wall detections, both laps comprising said alignment, the stepped lap also including rotation of the robot through a predetermined angle*

relative to its orientation during the straight lap, whereby the robot is adapted to move along two known mutually angled directions independently of the shape of the walls of the swimming pool.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MCDIEUNEL MARC whose telephone number is (571)272-6964. The examiner can normally be reached on 6:30-5:00 Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on (571) 272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 3664

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